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COMPARISON OF MULTIPLE AFFECT ADJECTIVE CHECK LIST AND MILITARY--ETC(U)
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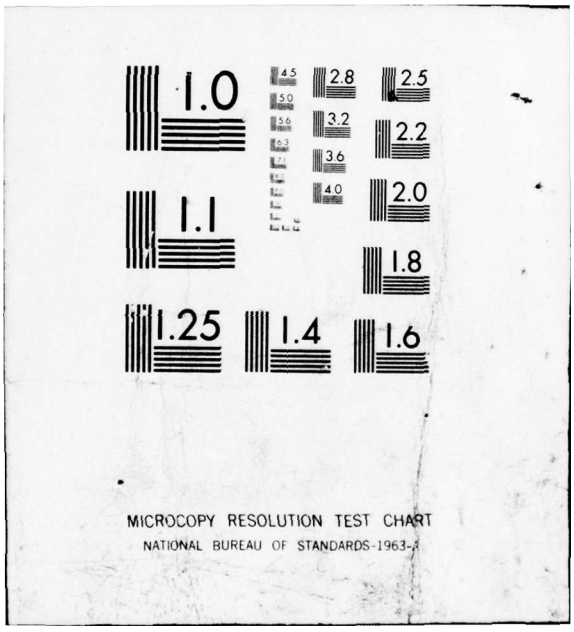
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

B.S.

DEPARTMENT OF THE ARMY
UNITED STATES ARMY TRAINING CENTER, INFANTRY, AND FORT ORD
TRAINING MANAGEMENT AND EVALUATION COMMITTEE
Fort Ord, California 93941

AMNOR-C (9) (6) (11) 5 April 1971 (12) 43 p.

SUBJECT: Technical Report on Comparison of Multiple Affect Adjective Check List and Military Morale Inventory.

1. REFERENCES:

a. Letter, AMNOR-C, CG, this headquarters, dated 26 October 1970, subject: Technical Report of Medical Research and Development Project with Proposal to Utilize BCT Morale Instrument, with 5 Indorsements and 1 Inclosure.

b. Technical Report, AMNOR-C, this headquarters, dated 16 October 1970, subject: Technical Report on Cluster Analysis of the Multiple Affect Adjective Check List (Med R&D Project Number 3A062110A823) (Incl 1 to Reference 1a).

2. PURPOSE: To conduct a comparison of scores derived from the Multiple Affect Adjective Check List (MAACL) and the Military Morale Inventory (MMI).

3. BACKGROUND:

→ This report

a. Reference 1b, above, describes the creation of an instrument, the (MMI), to measure morale in military units. The MMI was constructed from empirical data gathered with the (MAACL).

Multiple Affect Adjective Check List

Military Morale Inventory

(cont p. 4)

b. The 2d Ind, ATIT-AT, Hq, USCONARC, dated 11 December 1970, of Reference 1a, above, acknowledges that "a valid requirement exists to provide unit commanders with a simple, valid, objective morale measuring device which will aid in the timely sensing of developing morale trends. . . . It is recommended that the proposed MMI be examined with view to determining validity as a military morale measuring device."

c. The 3d Ind, MEDDH-RB, DA, OTSG, dated 23 December 1970, of Reference 1a, above, recommends that a direct comparison of the MAACL and MMI be conducted to establish the validity of the MMI as a morale measuring device. "The United States Continental Army Command should not consider utilization of the MMI throughout the training base until

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the validity study has been completed and the research findings technically approved by The Surgeon General."

d. The 4th Ind, ATIT-AT, Hq, USCONARC, dated 6 January 1971, of Reference 1a, above, grants authority to use the MMI in the VOLAR experiment at Fort Ord. Further, "If such a (morale) device is available, this Hq is desirous of incorporating its use into all individual training as soon as possible. Consequently, CONARC supports the recommendation of The Surgeon General that a study involving a direct comparison of the MAACL be conducted at Fort Ord during the VOLAR experiment."

4. PROCEDURE:

a. Data Source. Responses on MAACL records obtained from soldiers undergoing Basic Combat Training (BCT) at Fort Ord in 1970 were used as the data on which to make a comparison between MAACL scores and MMI scores.

b. Sample size: Records from 188 group administrations of the MAACL were selected "accidentally" for study. Each of the 188 administrations was based on company-size groups. Sample size within each administration ranged from 88 to 245. The total number of individual MAACL records studied was 30,313.

c. Score Comparison:

(1) Each MAACL record was scored by two keys: the MAACL score key and the MMI score key. The MAACL scores and the MMI scores so obtained formed the basis of the comparison study.

(2) (An MAACL score may range from 0 - 89. An MMI score may range from 0 - 70. Fifty-seven of the 89 MAACL items appear on the 70-item MMI score. Thirteen items are unique to the MMI scale. Thirty-two items are unique to the MAACL scale. However, all of the words used in either scale appear in the pool of 132 words on the MAACL sheet. See Reference 1b, above).

d. Correlation method.

(1) The Pearson product-moment correlation coefficient (r) was used to study the degree of relationship between MAACL scores and MMI scores. r may range from a maximum negative correlation of -1.00 to a maximum positive correlation of +1.00.

(2) (With the MMI, the larger the score the higher the morale. The reverse is true for morale scores derived from the MAACL. Therefore, high negative correlation coefficients

would reflect a direct--not an inverse--relationship in this study).

(3) r's were calculated on the basis of individual MAACL and MMI scores for 142 different company-size groups. Mean MAACL and MMI scores were calculated on 46 additional company-size groups. The mean scores from these 46 groups were pooled with the mean scores from the 142 groups and an r based on 188 MAACL and MMI company-size mean scores was calculated.

e. Score prediction. MAACL and MMI mean scores from the 188 groups were used to generate regression coefficients (i.e., the slope and the y intercept) in the standard, two-variable regression equation. Calculation of these regression coefficients enable the prediction or "best guess" for an MAACL score, given a particular MMI score, and vice versa.

5. RESULTS:

a. Table I at Inclosure 1 presents comparison data on 142 of the groups studied. The number of respondents (N) in each sample is listed in the first column, the MAACL and MMI means are presented in the next two columns, the standard deviations next, and finally the correlation coefficient (r). When an r is calculated using the 142 pairs of means as raw scores, the result is r = -.986.

b. Table II at Inclosure 2 presents mean comparisons on 46 additional company-size groups. Standard deviations and r's within each group were not calculated on these data. However, the r for the 46 paried mean scores is -.995.

c. When the 188 pairs of company-size mean scores are used to calculate a correlation coefficient between MAACL and MMI, the result is r = -.992.

(1) The following regression equations resulted from the 188 pairs of mean scores. X = obtained MAACL score, Y = obtained MMI score, X' = predicted or estimated MAACL score, and Y' = predicted or estimated MMI score.

(a) $X' = -1.0418901633\ Y + 77.7806788345$

(b) $Y' = -.9436619142\ X + 73.9691710569$

(2) From these regression equations, Tables III and IV (Inclosures 3 and 4) were constructed. Table III enables the translation of an actual, obtained MMI mean score into its MAACL "equivalent." Table IV enables the translation of an actual, obtained MAACL mean score into its MMI "equivalent."

(3) The standard error of X as estimated from Y was found to be .592176. This standard error is useful in this way: Let it be the case that an MMI mean score of 40.93 was obtained on a group. Consulting Table III we see that the predicted MAACL score for this obtained MMI value is 35.14. The standard error of .59 tells us that, if we made many such predictions, 68.26 times out of 100 times the actual MAACL score would be within the limits 35.14 $\pm$.59, and nearly always within the limits 35.14 $\pm$3(.59).

(4) The standard error of Y as estimated from X was found to be .563570. Let it be the case that an MAACL mean score of 51.12 was obtained on a group. Consulting Table IV we see that the predicted MMI score for this obtained MAACL value is 25.73. The standard error of .56 tells us that, if we made many such predictions, 68.26 times out of 100 times the actual MMI score would be within the limits 25.73 $\pm$.56, and nearly always within the limits 25.73 $\pm$3(.56).

6. DISCUSSION:

cont from p. 1

a. The correlation results obtained reveal a very close correspondence between MAACL and MMI scores. r's calculated from individual scores range from -.962 to -.986. The r based on 188 mean scores is -.992.

b. In interpreting the large magnitude of these r's, it must be remembered that there is considerable "mechanical" or "automatic" correlation build into the results. That is, 57, or 64%, of the 89 items on the MAACL scale are also on the MMI scale (see paragraph 4c (2), above). This item overlap, of course, produces spuriously high r's.

c. This artifact notwithstanding, the r's obtained are so high that they may be interpreted as representing a very close relationship between non-item overlap portions of the scales. It seems quite clear that the two sets of word lists (i.e., the MAACL "key" and the MMI "key") are measuring the same variable.

d. We presume this variable to be some sort of psychological dimension corresponding to what is meant by the common sense notions and connotations attached to the word "morale". At least the dimension is clearly an evaluative one. That is, "good" vs "bad", "positive" vs "negative", "attraction" vs "repulsion", etc.

e. Further illustration of the close correspondence between the two scales are the small standard errors surrounding the two regression lines (see paragraphs 5c (3) and 5c (4), above). These small standard errors make utilization of the

"translation" tables (Inclosures 3 and 4) meaningful and useful. In the event that the MMI is adopted, it is possible from the tables to make comparisons with prior MAACL data.

f. This study did not undertake a comparison of format differences between the two answer sheets. There are several reasons for this omission.

(1) Scientifically unnecessary. Because of the manner in which the MMI was developed (i.e., through replicated cluster analyses--see Reference 1b, above), and because of the very close correspondence between the two scales as represented by the correlational data in this report, it is believed that a format comparison is an unnecessary and trivial endeavor. In a format comparison, what if r's were to slip to -.90 or -.85, or even -.80? Would this mean the MMI should not be used in place of the MAACL, or that it is a less valid instrument? Correlating imperfection with imperfection ad infinitum will not be productive at this point. It is quite clear that the MMI is measuring a similar phenomenon or dimension as the MAACL. The real test of the MMI now is whether or not commanders will construe it, upon utilization, as "valid" or "useful" or "meaningful." That is, will MMI results correspond with other observations made of a unit? Will MMI "signals", upon investigation, reveal to the commander information that he otherwise would have missed? If the MMI cannot withstand this kind of "field test", it matters not what the size of the MAACL-MMI correlation coefficient is.

(2) FY 71 VOLAR evaluation, Fort Ord is accumulating rather massive amounts of MAACL data in an attempt to evaluate the impact upon morale of the FY 71 VOLAR experiment on soldiers-in-training. While the standard errors are small (paragraph 5c (3) and 5c (4) above), they are perhaps large enough to disguise effects if Fort Ord interrupts its across-the-board morale measurements with the format comparison study or a substitution of the MMI for the MAACL. Therefore, Fort Ord plans to continue with the MAACL through 30 June 71 and on 1 July 71 to discontinue the MAACL and switch over entirely to the MMI, in the measurement of morale. (As a "pilot" project, however, Fort Ord has begun to obtain MMI measurements on a TO&E unit, the 613th Engineer Battalion. This is not a format comparison study, since we believe this is the wrong direction to move in order to obtain further information on the utility value of the MMI. Rather, it is an exploration into the problems and benefits of applying the MMI to a permanent party unit).

(3) Compromise. To perform an adequate format comparison study would require huge amounts of data. It would be inappropriate and misrepresentative to measure only one or two companies. A wide range of morale levels, over time, would have to be assessed. Unless one limited himself to group comparisons, problems of non-anomymity would arise in comparing individual scores. The measurement artifacts produced by alternate forms introduces variables into a format comparison study which cannot possibly be eliminated and which would cause problems in interpretation of the results. If we had infinite time and infinite resources, a format comparison could well be considered--as a kind of scientific luxury. As it is, our decision to by-pass a format comparison study is a "cost-gain" decision in a world of reality. We believe that based on the data in this present study, and based on the cluster analysis method of item derivation, that the MMI is a sound instrument and is certainly comparable to the MAACL in what it purports to measure. It is our compromise decision that more can be learned about the value of the MMI by putting it "in the field" than by further inter-test correlational studies. Time and resources could much better be spent in accumulating MMI norms in various military settings and in gathering commanders' judgements of the MMI's practical utility value.

7. SUMMARY AND CONCLUSIONS:

a. Scores on the set of 70 MMI items derived by previous study from the universe of 132 words on the MAACL sheet (see Reference 1b, above) consistently produce correlation coefficients in the high -.90's when paired with scores on the set of 89 MAACL items.

b. The MAACL and the MMI are judged to be comparable instruments in the measurement of morale.

c. "Equivalence" tables, which enable the translation of an MMI score into an MAACL score, and vice versa, have been constructed and are attached to this report as Inclosures 3 and 4.

d. The MMI is judged to be ready for use as a morale sensing device. A copy of the MMI answer sheet, suitable for automatic scoring by optical scanning, is attached as Inclosure 5. (Ten buffer words, not considered in the scoring, have been added to the list of 70 items).

e. Further knowledge of the contribution which a check-list inventory of emotionally laden words can make to the commander's understanding of unit morale can best proceed by field utilization and evaluation of the MMI.

8. RECOMMENDATIONS: If higher headquarters elects to begin field trials with the MMI, it is recommended that:

a. Much quality control consideration be given to the data gathering and the scoring/computational procedures.

b. Statistical norms on the MMI to include sample size of respondents, mean scores (to two digits beyond the decimal) and standard deviations (to two digits beyond the decimal) be collected, recorded, and collated by unit and calender date.

c. "Diaries" of unit events be recorded and logged so that the relationship between external happenings and morale scores can be detected and substantiated in a variety of military situations.

d. Unit parameters (such as authorized/assigned strength, demographic composition, leadership characteristics, mission requirements, etc.) be tracked and recorded.

e. Formal measures of the judgements and opinions of commanders utilizing MMI results be obtained.

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LTC, MSC
Psychologist

5 Incls
1 - Table I
2 - Table II
3 - Table III
4 - Table IV
5 - MMI sheet

NOTE: Tables III and IV have been deleted from the archival repository. These tables can be generated by the equations in paragraphs 5c(1)(a) and (b), above.

TABLE I

Comparison of MAACL with MMI: 142 Company-Size Samples

N	MEAN		STANDARD DEVIATION		r
	MAACL	MMI	MAACL	MMI	
155	37.86	37.48	11.97	11.46	-.970
162	39.40	36.98	12.91	11.96	-.980
102	45.14	31.89	11.33	10.44	-.974
192	50.04	27.67	15.38	13.46	-.981
160	43.04	33.57	12.99	12.27	-.975
197	44.02	32.18	16.07	14.53	-.978
172	44.34	31.27	12.99	11.85	-.970
192	44.60	31.67	15.37	13.76	-.977
149	40.17	35.52	14.35	12.80	-.975
168	42.61	33.85	12.28	11.37	-.974
192	49.60	25.88	14.13	12.04	-.969
185	52.96	24.84	15.06	12.98	-.974
167	43.04	33.41	12.67	11.80	-.976
186	48.68	27.33	12.42	11.48	-.970
158	43.48	32.84	13.40	12.27	-.973
146	44.42	31.44	14.23	12.61	-.977
162	40.86	35.64	13.67	12.68	-.978
180	44.99	30.70	13.52	12.27	-.975
198	41.12	35.05	13.98	12.34	-.977
185	40.32	36.03	14.09	12.86	-.977
182	48.32	26.78	13.35	11.14	-.970
154	44.64	32.42	11.61	10.58	-.972
147	44.22	32.60	13.17	11.89	-.968
150	41.37	34.85	14.52	13.30	-.981
129	42.98	34.42	18.25	17.03	-.985
164	46.35	30.12	14.79	13.21	-.980
134	42.83	32.46	16.00	13.99	-.979
145	39.31	37.59	12.39	11.93	-.978
163	41.08	35.01	14.09	13.10	-.975
202	46.74	29.26	16.03	14.28	-.977
132	35.80	39.70	12.41	11.40	-.974
93	40.56	36.13	13.11	12.68	-.979
108	40.32	36.07	14.57	13.73	-.981
108	41.38	35.47	12.81	11.73	-.975
115	45.42	32.03	16.10	13.66	-.977
138	40.82	36.19	14.03	13.06	-.972
140	42.32	33.44	16.72	14.21	-.981
145	34.46	40.76	13.45	12.47	-.968
112	33.79	42.41	12.31	11.72	-.978
131	38.05	37.72	12.95	12.16	-.973
150	44.28	32.84	14.97	12.96	-.975
155	41.13	35.11	17.07	14.95	-.977
200	47.00	29.70	13.96	12.13	-.975
145	45.32	31.67	13.49	11.91	-.973
142	44.23	32.24	16.15	14.41	-.980
152	40.51	36.20	15.17	13.31	-.982

TABLE I (Con't.)

N	MEAN		STANDARD DEVIATION		r
	MAACL	MMI	MAACL	MMI	
142	36.82	38.62	14.93	13.83	-.977
131	51.40	25.09	13.57	11.95	-.966
138	42.36	33.68	15.60	13.37	-.981
182	48.05	28.30	16.85	14.75	-.978
156	43.53	33.37	12.61	11.63	-.980
108	42.19	33.99	15.37	13.54	-.980
130	50.52	26.26	15.62	13.38	-.975
147	38.84	36.62	14.95	13.33	-.973
196	40.77	35.18	14.30	13.09	-.978
203	42.49	34.00	15.63	13.60	-.978
160	38.21	37.32	15.76	13.73	-.976
150	35.91	39.48	12.25	11.93	-.974
146	48.40	28.10	16.17	14.18	-.974
167	40.53	35.80	13.64	12.65	-.976
152	41.76	34.97	15.62	14.53	-.985
155	37.99	37.42	14.34	13.19	-.976
153	42.41	33.52	15.62	13.77	-.979
154	45.27	30.69	13.40	11.94	-.975
135	38.96	36.77	14.55	13.72	-.980
194	42.08	34.62	15.47	13.92	-.976
180	45.82	30.91	13.95	12.70	-.972
110	39.19	37.45	13.98	13.09	-.976
135	47.97	28.10	14.49	12.55	-.969
184	41.67	34.62	14.10	12.95	-.983
154	44.30	30.73	14.66	13.30	-.976
191	46.41	30.43	16.70	14.91	-.978
106	40.18	36.08	13.86	12.90	-.969
153	44.24	31.47	14.07	12.58	-.973
88	40.98	35.45	12.51	11.57	-.973
137	41.64	34.52	15.50	13.83	-.979
148	40.07	35.73	14.31	12.86	-.978
128	48.84	27.34	12.80	11.31	-.971
140	43.65	32.69	14.77	13.29	-.977
129	44.73	31.67	15.37	14.01	-.978
120	38.20	38.02	13.29	12.68	-.978
137	41.32	34.63	15.02	13.17	-.976
144	42.52	34.11	15.45	14.02	-.982
144	37.06	38.00	13.96	13.26	-.973
123	35.55	40.79	12.84	11.60	-.971
142	46.52	30.23	13.89	12.82	-.974
145	42.62	32.81	13.18	12.24	-.980
139	42.48	33.32	13.06	11.46	-.971
120	44.26	31.96	13.75	11.91	-.975
173	45.76	31.64	13.63	12.31	-.976
189	53.99	23.48	16.45	13.92	-.978
110	46.98	29.96	16.93	14.83	-.979
96	44.80	31.45	14.89	13.62	-.975

TABLE I (Con't.)

N	MEAN		STANDARD DEVIATION		r
	MAACL	MMI	MAACL	MMI	
208	42.64	33.42	16.82	14.43	-.979
155	43.71	33.34	16.41	14.68	-.980
147	33.03	42.85	13.11	11.86	-.973
160	36.74	38.63	14.32	13.02	-.974
149	35.74	40.33	14.80	13.89	-.986
136	42.94	33.76	11.35	10.65	-.967
130	43.32	34.38	13.96	12.33	-.979
158	44.92	32.05	13.65	12.31	-.980
169	39.82	36.50	15.02	13.48	-.978
138	41.05	35.02	14.78	13.51	-.979
152	40.61	35.38	12.12	11.53	-.976
188	44.10	32.55	12.50	11.50	-.965
177	37.31	38.18	14.61	13.63	-.980
157	40.37	35.34	14.53	12.76	-.974
187	45.49	31.05	11.43	10.91	-.971
154	43.69	32.63	13.98	12.59	-.972
108	42.64	34.79	15.75	14.47	-.980
199	41.70	34.43	14.93	13.41	-.979
195	35.24	41.08	15.14	13.42	-.981
155	42.14	34.60	16.96	14.99	-.982
113	43.44	32.77	11.17	10.37	-.982
163	40.47	36.26	10.42	10.13	-.972
160	41.09	35.01	14.77	13.69	-.977
183	46.14	30.75	13.46	12.75	-.973
201	38.11	38.29	11.71	11.66	-.978
201	39.15	36.67	14.33	12.92	-.979
115	43.34	32.97	13.43	12.66	-.972
185	40.24	36.03	13.89	12.94	-.974
193	46.32	29.61	13.54	12.21	-.968
127	45.01	32.13	13.56	12.63	-.968
136	46.16	31.09	14.06	12.55	-.975
129	42.84	33.46	10.86	10.25	-.972
92	41.67	35.12	9.68	8.91	-.974
130	44.53	31.38	10.73	9.98	-.975
115	42.52	33.11	12.95	11.51	-.967
186	43.46	33.02	11.60	10.47	-.968
176	45.14	31.23	12.11	11.81	-.970
128	42.41	33.86	12.72	11.99	-.972
138	43.56	31.95	13.26	12.07	-.982
135	42.80	33.21	11.08	10.72	-.962
155	39.94	34.72	14.80	13.20	-.976
146	41.55	34.79	13.42	12.73	-.981
163	42.24	34.47	13.96	12.64	-.975
161	40.63	36.21	16.36	14.66	-.979

TABLE I (Con't.)

N	MEAN		STANDARD DEVIATION		r
	MAACL	MMI	MAACL	MMI	
179	32.07	43.92	15.60	14.55	-.980
135	42.52	33.90	14.32	13.03	-.981
195	46.12	29.96	15.33	13.61	-.978
167	45.34	31.55	14.91	13.42	-.976
138	44.61	31.31	15.26	13.31	-.976

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r = -.986 for the 142 paired mean scores.

TABLE II

Comparison of MAACL and MMI means on 46 Company-Size Samples

N	MAACL MEAN	NMI MEAN	N	MAACL MEAN	NMI MEAN
207	39.53	37.49	193	46.56	30.09
188	37.16	38.33	213	36.89	39.79
205	34.91	40.79	191	35.70	40.84
189	38.12	38.65	177	39.12	37.48
157	34.66	42.08	183	39.50	37.48
245	52.46	24.86	174	38.63	38.55
219	51.93	24.59	187	40.83	36.19
213	51.62	25.26	187	37.88	37.39
189	60.67	17.67	179	40.03	35.11
218	45.61	31.20	178	42.10	33.39
202	49.31	27.91	190	44.09	32.07
224	48.32	28.74	174	43.30	33.08
219	21.57	54.90	165	43.85	32.93
182	36.78	39.52	175	43.81	32.93
200	46.59	30.99	177	40.83	36.32
224	43.77	32.28	168	39.21	37.49
226	45.94	30.71	109	38.94	36.54
210	50.43	26.79	123	41.54	33.85
222	42.05	34.76	110	39.36	36.44
196	49.85	27.64	104	44.55	31.81
205	45.08	32.28	121	41.47	35.11
221	31.31	45.37			
197	36.48	39.86			
210	37.71	38.36			
192	39.33	36.46			

r = -.995 for the 46 paired mean scores

Incl 2

MILITARY MORALE INVENTORY

INSTRUCTIONS: Below is a list of words which can be used to describe a soldier's morale or "feeling state."

We want you to summarize your morale for the past week. Blacken in the space alongside the words that best describe the way you have felt during the past week.

Although some of the words may seem similar to each other, please mark all of the words that describe the main feelings you have experienced during the past week.

The results of this inventory are scored by machine; therefore:

- Use the pencil provided (# 2 pencil)
- Keep answer sheet clean
- Erase stray marks and errors completely
- Do not fold or tear answer sheet

There is no time limit. When finished, turn your answer sheet face down.

UNIT
COMPANY
BATTALION
BRIGADE
PLATOON

DATE
DAY
MONTH
YEAR

ADMINISTRATION

IDENTIFICATION NUMBER

HOUR

1. ACTIVE	21. CROSS	41. GOOD–NATURED	61. PEACEFUL
2. ADVENTUROUS	22. DISAGREEABLE	42. HAPPY	62. PLEASED
3. AGITATED	23. DISCONTENTED	43. HEALTHY	63. PLEASANT
4. AGREEABLE	24. DISCOURAGED	44. HOPELESS	64. RELAXED
5. AGGRESSIVE	25. DISGUSTED	45. IMPATIENT	65. RESENTFUL
6. ALIVE	26. DISPLEASED	46. INSPIRED	66. SAD
7. ALONE	27. DOWNCAST	47. INTERESTED	67. SAFE
8. ANGRY	28. EMBARRASSED	48. IRRITATED	68. SATISFIED
9. ANNOYED	29. ENERGETIC	49. JOYFUL	69. SECURE
10. ASHAMED	30. ENTHUSIASTIC	50. KINDLY	70. STRONG
11. AWFUL	31. EXCITED	51. LONELY	71. SUFFERING
12. BITTER	32. FINE	52. LOST	72. TENSE
13. BLUE	33. FIT	53. LOVING	73. TERRIBLE
14. BORED	34. FREE	54. LOW	74. TORMENTED
15. CAREFREE	35. FRIENDLY	55. LUCKY	75. UNDERSTANDING
16. CHEERFUL	36. FURIOUS	56. MAD	76. UNEASY
17. COMPLAINING	37. GAY	57. MERRY	77. UNHAPPY
18. CONFIDENT	38. GLAD	58. MISERABLE	78. UPSET
19. COOL	39. GLOOMY	59. NERVOUS	79. WONDERFUL
20. COOPERATIVE	40. GOOD	60. OFFENDED	80. WORRYING

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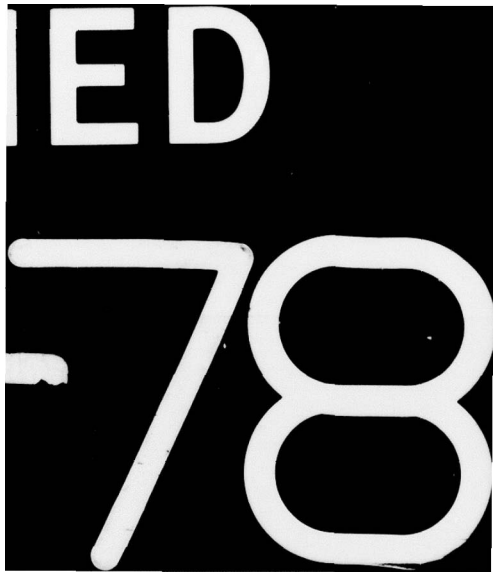
Army Training Center, Engineer and,
Fort Leonard Wood, MO.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